

September 22-26, 2009; Mallorca, Spain

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Sponsored by: *Technical University of Catalonia (UPC), University of Balearic Islands (UIB), Spain and IEEE Industrial Electronics Society*

**Aim:** The aim of the conference is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation.

**Solicited Papers:** Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. In addition, ETFA 2009 solicits special session proposals to stimulate in-depth discussions in special areas relevant to the conference theme. Please consult the conference web page for more details.

**Topics within the scope of the conference include:**

#### Information Technology in Automation

Development Platforms and Frameworks: .NET, J2EE; Programming languages: Java, C#, Software System Security, Tool chains for Software Design and Development, Engineering and commissioning tools, etc.; Operating Systems; Databases and Web Interfaces; Realtime Mobile Computing, Network Computing, Distributed Real-time Systems, Industrial Signal Processing, Sensor fusion.

#### Industrial Communication Systems

Real-Time Communications and Applications; Fieldbus Networks; Real-Time Ethernet Networks; Wireless and Hybrid (wired/wireless) Networks for Industrial Communications; Dependability Aspects and Fault Tolerance; Middleware for Industrial Communication Systems; Vertical Integration Aspects; Web-based Setup, Maintenance and Configuration; Internetworking; Formal Description Techniques; Intranet and Internet Access; Factory Applications and Case Studies. Performance Analysis of Industrial Communication Systems.

#### Real-Time and (Networked) Embedded Systems

Real-Time Computing; Real-Time Operating Systems; Real-Time Communications; Networked Embedded Systems Technology; Wireless Sensor Networks; Embedded Systems Security; Sensor Technology; Cyber Physical Systems; Design and Implementation; Design Methodologies and Tools; Models of Computation and Formal Methods; Hardware/Software Co-Design; Components and Platforms; Power Supply and Management; Data Integration and Fusion; Communication Modes; Quality of Service control; Case studies (industrial automation, automotive, avionics, communications...).

#### Automated Manufacturing Systems

Formal Modeling of Manufacturing and Process Systems; Simulation, Queueing Systems, Petri Nets; Synthesis and Analysis Techniques, Performance Evaluation and Reliability, Scheduling; Recent Developments in Standardization; Test Cases, Benchmarks, Tools; Discrete and Continuous Industrial Automation Systems; Automated Manufacturing Systems and Enterprise Integration; Applications and Experiences in Practice.

#### Industrial Control

Process Control; Equipment Control; Intelligent Control; Supervisory Control; Industrial Control Implementation; Discrete and Continuous Automation Systems; Equipment and Process Monitoring; fault Detection and Classification; Process Modelling and Optimization.

#### Computational Intelligence and Modern Heuristics in Automation

Intelligent Systems and Control, Modern Heuristics, Artificial Intelligence, and Data Mining in automation and industrial applications; Neural/Fuzzy/Evolutionary approaches in automation; Modern heuristics methods in factory automation based on predictive, adaptive control, recognition, navigation, motion control, competitive, self-organizing learning, and clustering; Computational Intelligence in wireless automation protocols such as Bluetooth, WiFi, and ZigBee; Computational Intelligence in security, reliability, and fault-tolerance in automation; Ant colonies optimization and swarm intelligence in automation; Also Petri Nets, Chaos, Markov models, Support Vector Machines, and Expert Systems.

#### Intelligent Robots & Systems

Machine Vision and Intelligence, Actuators and Motion Control, Multisensor Fusion and Integration, Intelligent Robots and Systems, Intelligent Space.

**Conference Format:** The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations; work-in-progress (WIP) sessions; panel discussions on the state-of-the-art and emerging trends, involving leading experts from industry and academia; and public discussion sessions moderated by leading experts in the field of industrial automation systems.

**Submission of Papers:** The working language of the conference is English. Two types of submissions are solicited. Long Papers – limited to 8 double column pages in a font no smaller than 10-points. Work-in-Progress and Industry practice – limited to 4 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site.

**Best Paper Award:** Best paper awards in Factory Automation and Emerging Technologies will be presented at the conference banquet dinner. Authors of outstanding papers will be invited to submit a revised version of their papers for publication in a special section in IEEE Transactions on Industrial Informatics.

**Further Information:** ETFA'09 Conference Secretariat: Tel: +34 93 401 6974; Fax: +34 93 401 7045; Email: [contact@etfa2009.org](mailto:contact@etfa2009.org)

**Paper Acceptance:** Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

**No-show Policy:** The ETFA 2009 Organizing Committee reserves the right to exclude a paper from distribution after the conference at IEEE Xplore if the paper is not presented at the conference.

#### Author's Schedule:

*Deadline for submission of long papers:*

March 31, 2009

*Notification of acceptance of long papers:*

May 25, 2009

*Deadline for submission of work-in-progress papers and Industry practice:*

June 1, 2009

*Notification of acceptance of work-in-progress papers and Industry practice:*

July 1, 2009

*Deadline for submission of final manuscripts – regular and special sessions:*

July 1, 2009

*Deadline for submission of final manuscripts – work-in-progress papers and Industry practice:*

July 14, 2009

<http://www.etfa2009.org>